Section

T

Flashing Light-Rotating Disc Highway Crossing Signal

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

General Offices and Factory

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Chicago, Illinois

●

District Offices in

New York, N. Y.
Denver, Colo.

St. Louis, Mo.

Cleveland, Ohio
Houston, Tex.

Printed in U.S.A.

1937

Model 6 Flashing Light-Rotating Disc Highway Crossing Signal

GENERAL DESCRIPTION

The Flashing Light-Rotating Disc Highway Crossing Signal has been adopted as standard by the U. S. Bureau of Public Roads and by the Highway Commissions of many states. It incorporates the principles of the flashing light signal and the Federal Octagon STOP Sign. The signal shows the restrictive STOP indication only when there is a train approaching the crossing and until the train has cleared the crossing. At other times the STOP disc is parallel to the highway and invisible to highway traffic. The signal says STOP only when it means STOP. The banner is held in a locked position in both the clear and STOP indication and can not be turned by force applied from without the mechanism case.

The rotating banner operates on the electrically energized or closed circuit principle, i.e., it is held in its normal clear position by electrical energy. In case of power failure the banner would automatically rotate to the restrictive STOP position by gravity. In other words, in case of power failure the Rotating Disc Signal will show a STOP indication whereas the standard flashing light signal will show a clear indication, or dark signal.

The Rotating Disc Signal can be furnished in two styles. It can be furnished so that the mechanism and banner can be mounted on a pipe post or mast by a gooseneck bracket; or it can be furnished so that it mounts on a pipe pedestal and is furnished with a channel iron framework which protects the banner with an octagon-shaped enclosure and supports a short pipe mast for mounting flashing lights, signs, bell, floodlight, etc.

The signal assemblies can be furnished with either Type 700 or Type 800 Mechanisms. These two mechanisms have the same operating characteristics but differ in construction. The differences in these two mechanisms can be seen in the accompanying photographs.

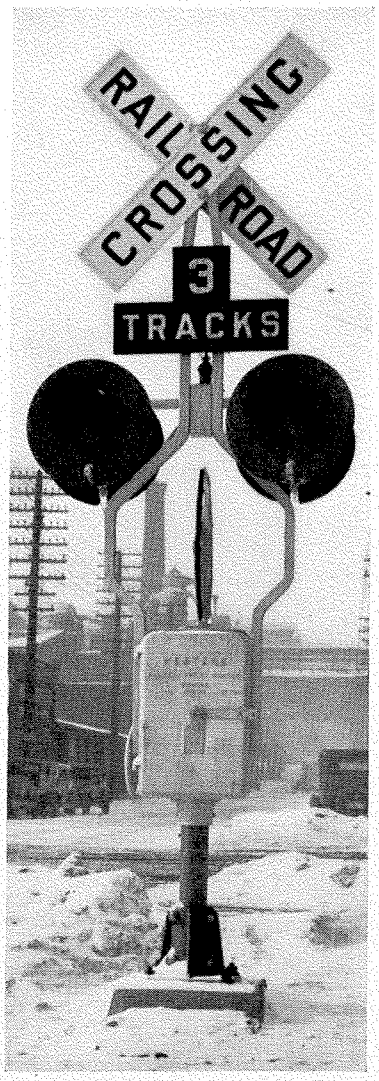
The Flashing Light Assemblies regularly furnished with these signals are the Type 880 shown in Western Railroad Supply Company Catalog Section D. They provide indication in both directions along the highway. (Each Flashing Light assembly consists of four flashing lights mounted on a junction box-cross arm.) The flashing lights are equipped with mangin mirror type reflectors and are furnished with single contact bayonet base, S-11 bulb, lamps of any voltage or wattage desired. Medium screw base lamps or double contact bayonet base lamps may be furnished if specified.

Any of the signs shown in W. R. R. S. S. Co. Catalog Section H may be furnished with the signal assemblies shown in this Catalog.

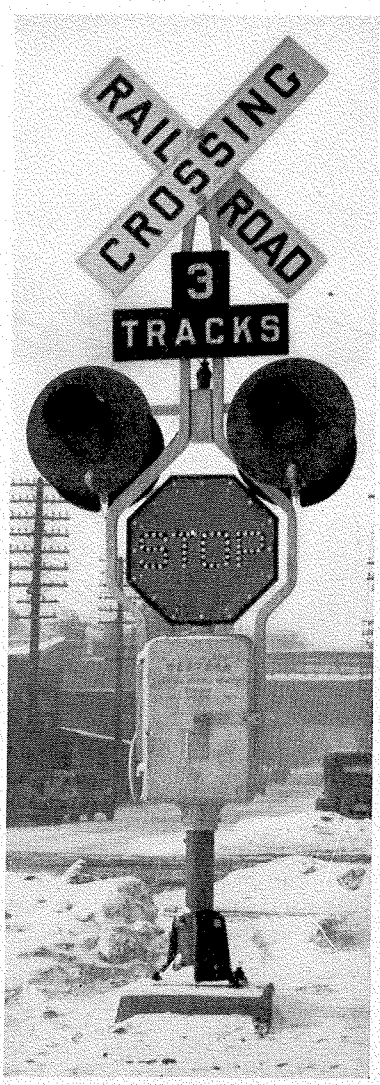
The Bell furnished will be Type 222, 12″ gong, if for operation from D. C. source, or Type 1203, 12″ gong, if for operation from A. C. source. Bells are shown in Catalog Section B.

Any of the Signal Assemblies shown in this Catalog Section may be varied to meet particular requirements. We will gladly offer engineering information and estimates on highway crossing protection installations. Western Railroad Supply Company is the largest manufacturers of highway crossing protection apparatus.

Model 6 Flashing Light-Rotating Disc Highway Crossing Signal



In clear position

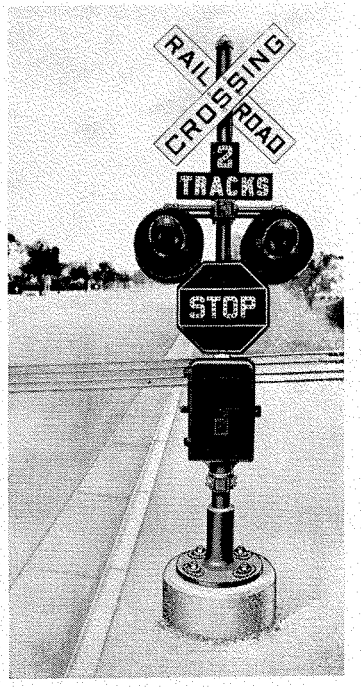


In stop position

CHANNEL IRON FRAMEWORK TYPE

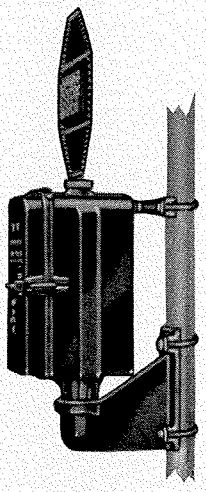
Model 6 Flashing Light-Rotating Disc Highway Crossing Signal

In clear position



In stop position

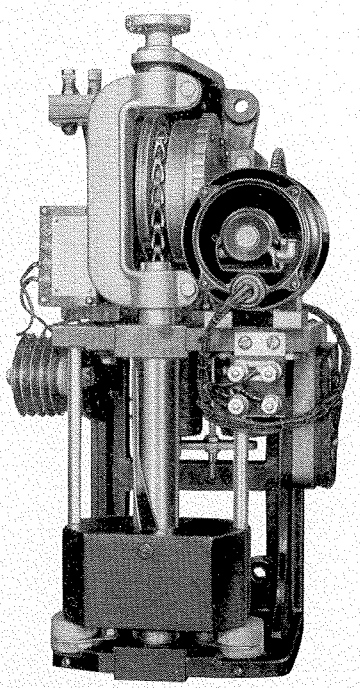
GOOSENECK BRACKET TYPE



From photo at left it can be seen that the mechanism and banner of the rotating disc signal can be added to existing highway crossing signals. By using the rotating disc signal mechanism, highway crossing signals can be modernized without completely scrapping signals now installed. For ordering reference for this assembly of mechanism, banner, and mounting brackets see Plates T20 and T60.

Model 6 Rotating Disc Highway Crossing Signal

TYPE 700 MECHANISM



The photograph above shows the operating mechanism of the Type 700 Model 6 Rotating Disc Signal. The view shows the mechanism in the STOP position. In this position the banner is locked and cannot be turned by force applied from outside the mechanism case.

When returning to the clear position the weight is raised and the spiral shaft is turned. This operation rotates the banner to its clear position parallel to the highway. The banner is mechanically locked in this position also.

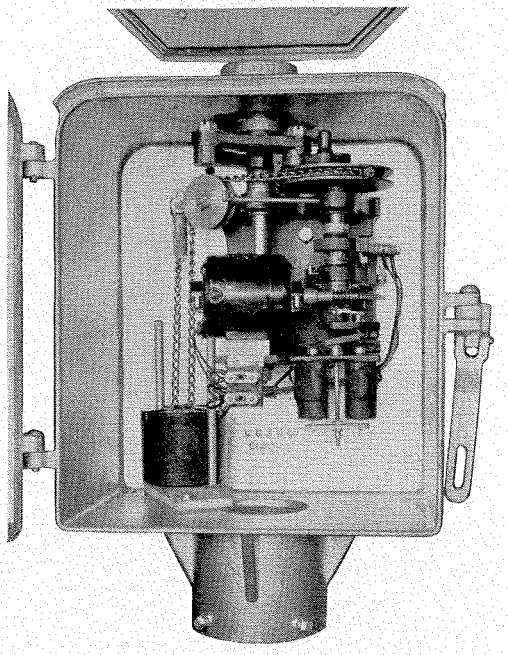
As a train enters the circuit the electric energy which holds the weight in the upper position releases the weight. The weight drops to the bottom of the case immediately, turning the spiral shaft and the STOP banner. In case of power failure also, the weight will drop and turn the STOP disc to the STOP position.

These mechanisms are furnished for either 10 volt D.C. or 110 volt A.C. operation, as specified. The illustration shows the A.C. operating mechanism.

For signal assemblies using the Type 700 Mechanism see Plates T10 through T25. For replacement parts for this mechanism see Plate T30.

Model 6 Rotating Disc Highway Crossing Signal

TYPE 800 MECHANISM



The photograph above shows the type 800 Mechanism for operating the rotating banner signal. The view shows the mechanism in the STOP position. In this position the banner is locked and cannot be turned by force applied from without the mechanism case.

When revolving to the clear position, the weight is drawn by the motor upwards from the bottom of the case and is held suspended in air while the signal is in the clear position. In this position also the banner is locked and cannot be turned by outside force.

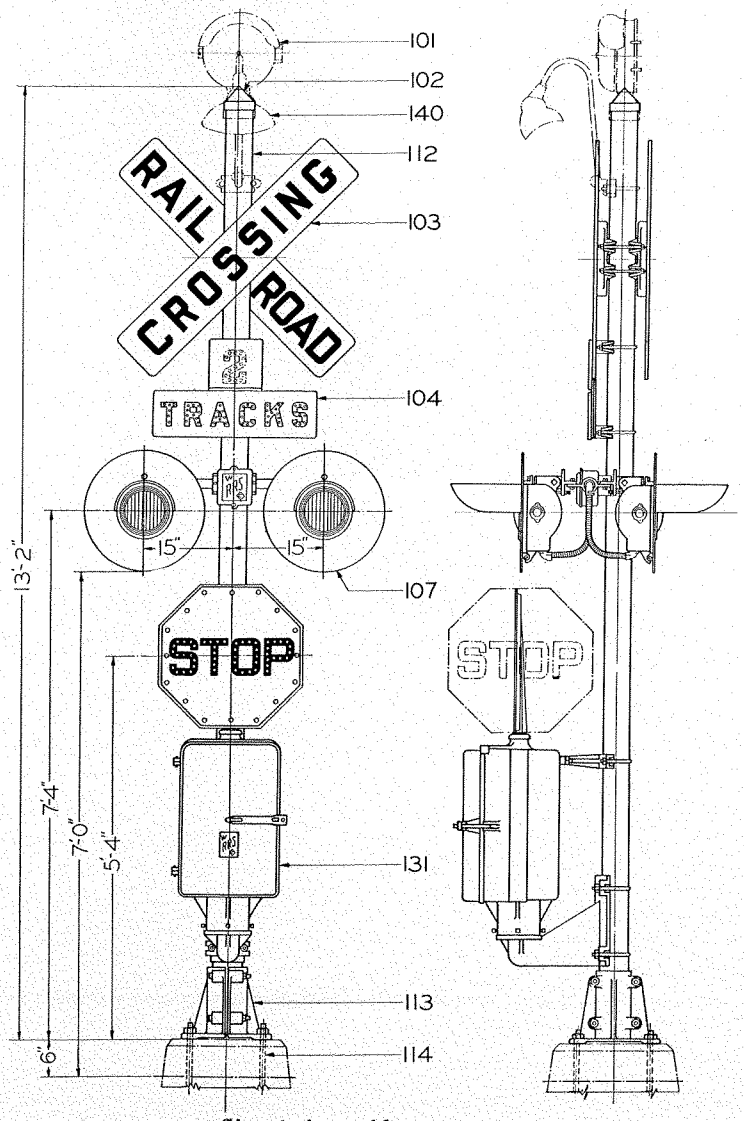
When a train enters the circuit the weight drops to the bottom of the case and immediately turns the banner to the most restrictive, STOP, position. The motor is used only in clearing the signal. In case of power failure the weight will also drop and cause the signal to display the STOP indication. This mechanism is furnished for either 10 volt D. C. or 110 volt A. C. operation, as specified.

For signal assemblies using the Type 800 Mechanism see Plates T50 through T65. For replacement parts for Type 800 Mechanism see Plate T70.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Rotating Disc Highway Crossing Signal

WITH TYPE 700 MECHANISM



Signal Assembly 0700-411

NOTE:

1—Signals will be furnished with 4" I. D. pipe unless otherwise specified.
2—Dimensions shown can be varied to meet particular requirements.
3—For ordering reference see following page.
4—Longer masts and additional flashing light units can be furnished.
5—For detail parts see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 700 MECHANISM

Signal Assembly 0700-411

Flashing Lights furnished with this signal assembly will be Type 880 for Two-Way Indication (four lamp units mounted on Type 865 Lamp Arm). Any other type of lamp assembly can be furnished if specified. (See Catalog Section D.)

Bell furnished with this signal assembly will be Type 222 if source of operating power is D.C.; Type 1203 Bell will be furnished if source is A.C. (See Catalog Section B.)

Banner furnished with this signal assembly will be Bureau of Public Roads Standard. (Yellow background, black letters and border, crystal reflector lenses in border, red lenses in word STOP.) (See Catalog Section H.) Any other type of disc with various wordings can be furnished.

THE FOLLOWING INFORMATION MUST BE SPECIFIED

1—Operating voltage, if D.C.; voltage and frequency, if A.C.

2—Voltage and wattage of lamps in flashing lights and floodlight.

3—Numeral required in Multiple Track Sign.

ORDERING REFERENCE

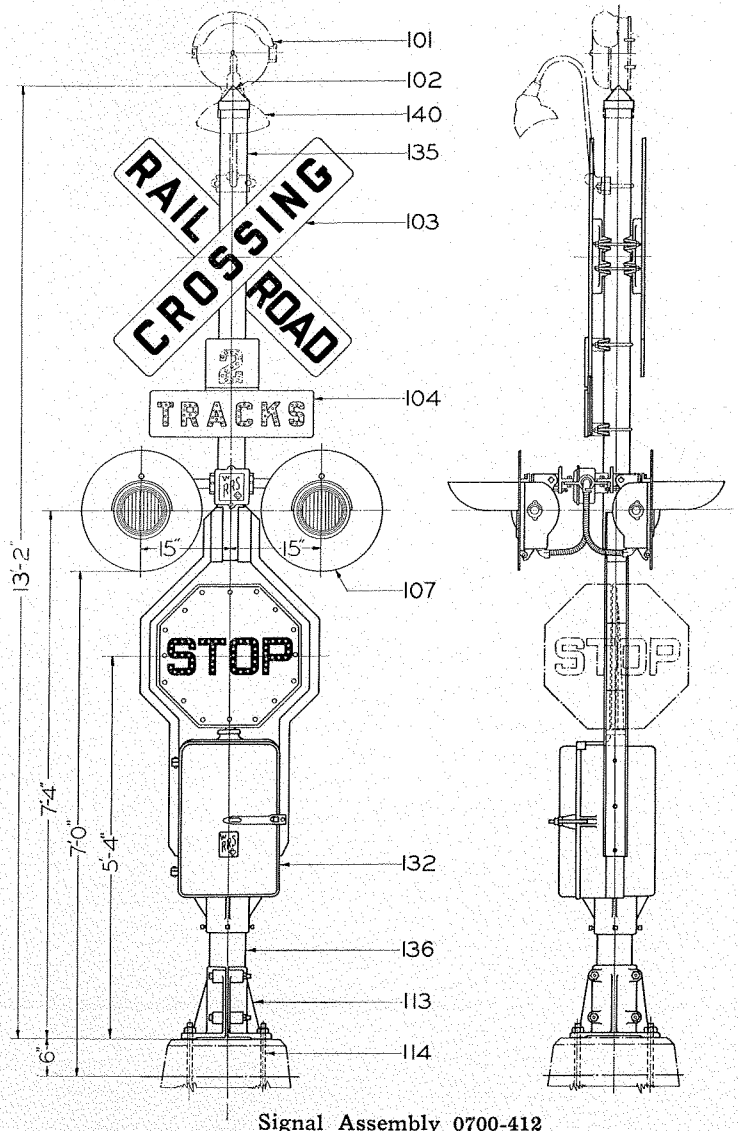
Specify Plate Number T10, Reference Number and Description
Description: Model 6 Type 700 Rotating Disc Signal 0700-411

Ref. No.	With or Without Bell	With or Without Floodlight	Type of Crossing Sign	Type of Track Sign
1	With	With	Cast Iron	Reflector
2	With	With	Cast Iron	Cast Iron
3	With	Without	Reflector	Reflector
4	With	Without	Reflector	Cast Iron
5	With	Without	Cast Iron	Reflector
6	With	Without	Cast Iron	Cast Iron
7	Without	With	Cast Iron	Reflector
8	Without	With	Cast Iron	Cast Iron
9	Without	Without	Reflector	Reflector
10	Without	Without	Reflector	Cast Iron
11	Without	Without	Cast Iron	Reflector
12	Without	Without	Cast Iron	Cast Iron

For detail parts of this signal assembly see Plate T100

Model 6 Rotating Disc Highway Crossing Signal

WITH TYPE 700 MECHANISM



Signal Assembly 0700-412

NOTE:

1—Signals will be furnished with 5″ I. D. pipe at base and with 4″ I. D. pipe at top.
2—Dimensions shown can be varied to meet particular requirements.
3—For ordering reference see following page.
4—Longer top pipe mast and additional flashing lights can be furnished.
5—For detail parts see Plate T100.

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 700 MECHANISM

Signal Assembly 0700-412

Flashing Lights furnished with this signal assembly will be Type 880 for Two-Way Indication (four lamp units mounted on Type 865 Lamp Arm). Any other type of lamp assembly can be furnished if specified. (See Catalog Section D.)

Bell furnished with this signal assembly will be Type 222 if source of operating power is D.C.; Type 1203 Bell will be furnished if source is A.C. (See Catalog Section B.)

Banner furnished with this signal assembly will be Bureau of Public Roads Standard. (Yellow background, black letters and border, crystal reflector lenses in border, red lenses in word STOP.) (See Catalog Section H.) Any other type of disc with various wordings can be furnished.

THE FOLLOWING INFORMATION MUST BE SPECIFIED

1—Operating voltage, if D.C.; operating voltage and frequency, if A.C.

2—Voltage and wattage of lamps in flashing lights and floodlight.

3—Numeral required in Multiple Track Sign.

ORDERING REFERENCE

Specify Plate Number T15, Reference Number and Description
Description: Model 6 Type 700 Rotating Disc Signal 0700-412

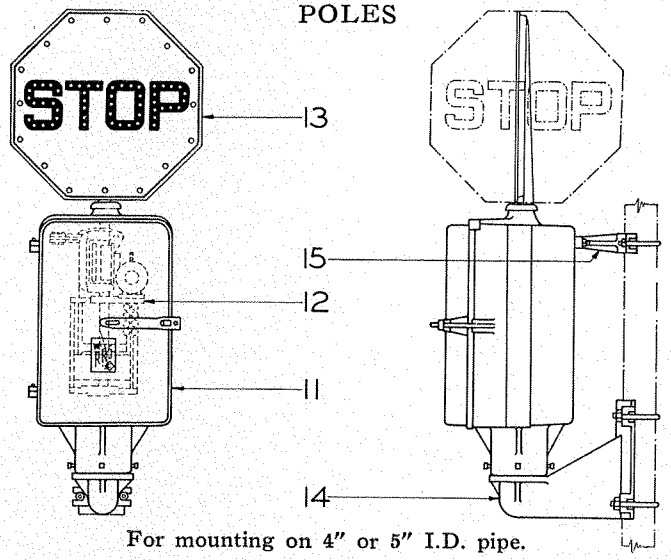
Ref. No.	With or Without Bell	With or Without Floodlight	Type of Crossing Sign	Type of Track Sign
1	With	With	Cast Iron	Reflector
2	With	With	Cast Iron	Cast Iron
3	With	Without	Reflector	Reflector
4	With	Without	Reflector	Cast Iron
5	With	Without	Cast Iron	Reflector
6	With	Without	Cast Iron	Cast Iron
7	Without	With	Cast Iron	Reflector
8	Without	With	Cast Iron	Cast Iron
9	Without	Without	Reflector	Reflector
10	Without	Without	Reflector	Cast Iron
11	Without	Without	Cast Iron	Reflector
12	Without	Without	Cast Iron	Cast Iron

For detail parts of this signal assembly see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Type 700 Assembly of Mechanism, Banner and Case

WITH GOOSENECK BRACKET FOR MOUNTING ON SIGNAL POLES



For mounting on 4" or 5" I.D. pipe.

ORDERING REFERENCE

Specify Plate Number T20, Reference Number and Description

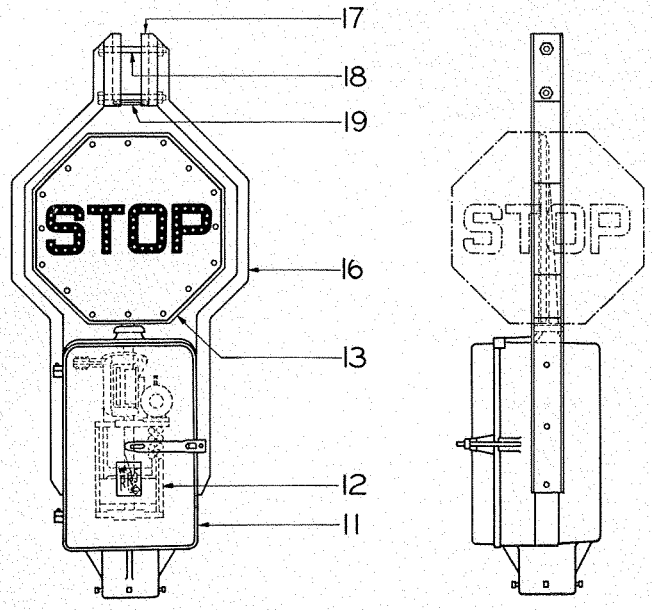
Ref. No.	Description	Piece No.
1	Type 700 Mechanism, Banner and Case Assembly complete with brackets for mounting on 4" I.D. pipe for d.c. operation (Specify voltage)	0700–451
2	Type 700 Mechanism, Banner and Case Assembly complete with brackets for mounting on 4" I.D. pipe for a.c. operation (Specify voltage and frequency)	0700–452
3	Type 700 Mechanism, Banner and Case Assembly complete with brackets for mounting on 5" I.D. pipe for d.c. operation (Specify voltage)	0700–453
4	Type 700 Mechanism, Banner and Case Assembly complete with brackets for mounting on 5" I.D. pipe for a.c. operation (Specify voltage and frequency)	0700–454
	Detail Parts	
11	Mechanism case with door (Socket is for 5" I.D. pipe or 5½" O.D. bracket)	0700–237
12	Mechanism complete for d.c. operation (Specify voltage)	0700–581
12a	Mechanism complete for a.c. operation (Specify voltage and frequency)	0700–582
13	Banner (Bureau of Public Roads Standard) complete with mounting fork	0700–201
13a	Double-faced assembly of banners and mounting fork (two banners mounted back to back)	0700–202
13b	Mounting fork only, for either Ref. 13 or 13a	0700–35
14	Gooseneck bracket complete with U-bolts for mounting on 4" I.D. pipe	0700–200
14a	Gooseneck bracket complete with U-bolts for mounting on 5" I.D. pipe	0700–200A
15	Brace bracket complete with U-bolts for mounting on 4" I.D. pipe	0700–277
15a	Brace bracket complete with U-bolts for mounting on 5" I.D. pipe	0700–277A

For replacement parts for mechanism see Plate T30.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Type 700 Assembly of Mechanism, Banner and Case

WITH CHANNEL IRON FRAMEWORK FOR PEDESTAL MOUNTING



Pipe mast clamps at top are for 4″ I.D. pipe.
Socket at bottom is for mounting on 5″ I.D. pipe.

ORDERING REFERENCE

Specify Plate Number T25, Reference Number and Description

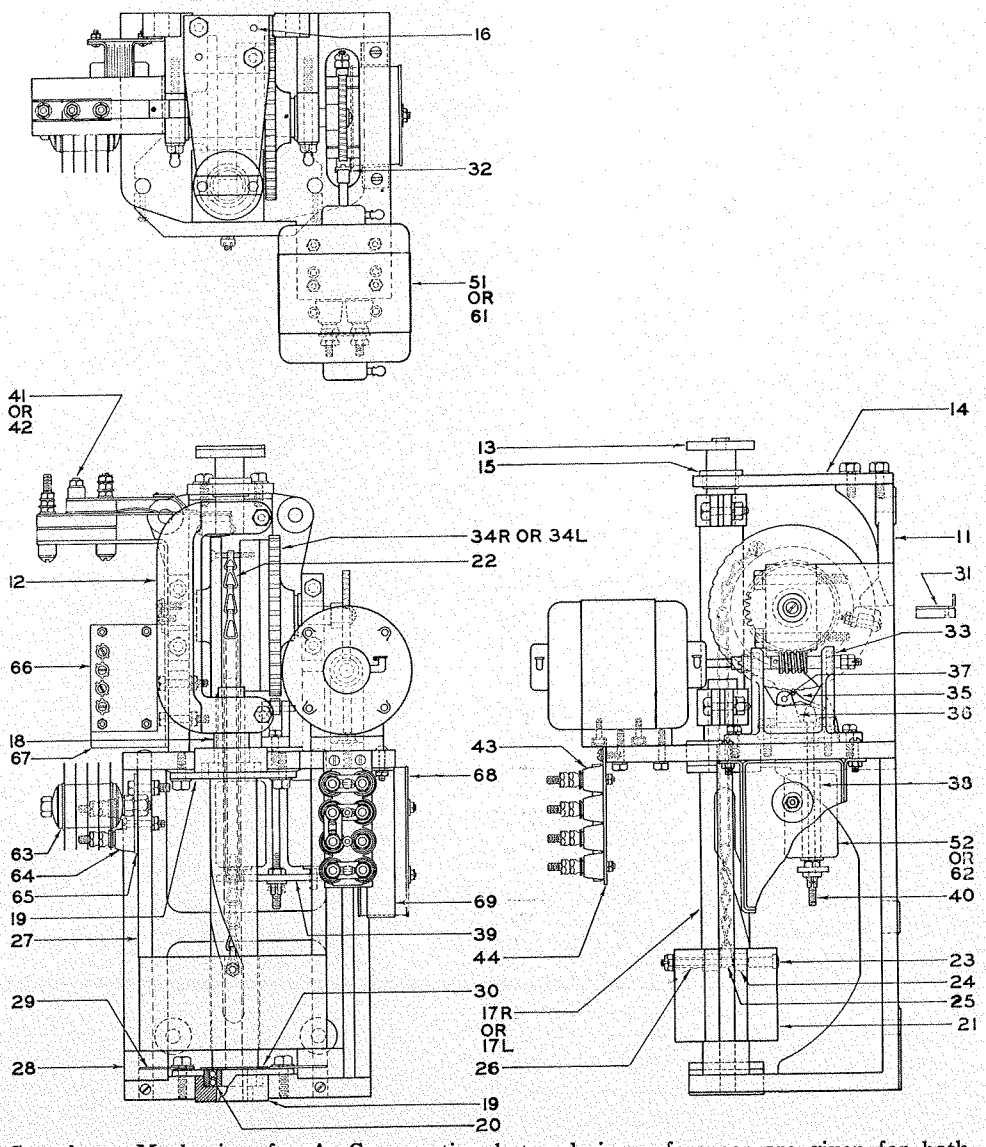
Ref. No.	Description	Piece No.
1	Type 700 Mechanism, Banner and Case Assembly complete with channel iron framework for d.c. operation (Specify voltage)	0700–461
2	Type 700 Mechanism, Banner and Case Assembly complete with channel iron framework for a.c. operation (Specify voltage and frequency)	0700–462
	Detail Parts	
11	Mechanism case with door (Socket is for 5″ I.D. pipe)	0700–238
12	Mechanism for d.c. operation (Specify voltage)	0700–581
12a	Mechanism for a.c. operation (Specify voltage and frequency)	0700–582
13	Banner (Bureau of Public Roads Standard) complete with mounting fork	0700–201
13a	Double-faced assembly of banners and mounting fork (two banners mounted back to back)	0700–202
13b	Mounting fork only, for either Ref. 13 or 13a	0700–35
16	Channel iron section for one side only (without drilling)	0700–143
17	Pipe mast clamp	0700–144
18	Through bolt with nut and washer	
19	Pipe cover plate	0700–502

For replacement parts for mechanism see Plate T30.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 700 Mechanism

For Type 700 Mechanism complete see Plate T20 or T25



Cut shows Mechanism for A. C. operation but ordering references are given for both A. C. and D. C. mechanisms.

NOTE:

1—For ordering reference for mechanism complete see Plate T20 or T25.

2—For breakdown of Items 36, 46R, 46L, 66, 68, and 97 see second succeeding page.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 700 Mechanism

For Type 700 Mechanism Complete See Plate T20 or T25

ORDERING REFERENCE

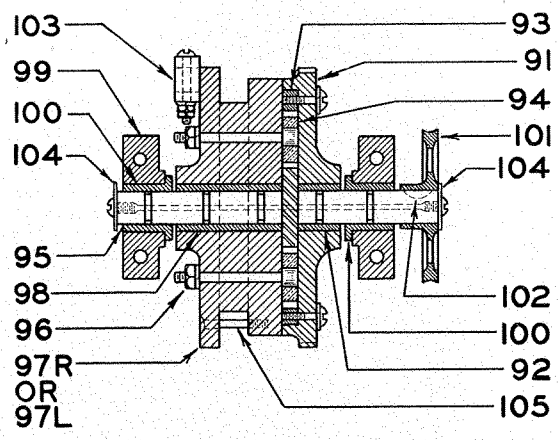
Specify Plate Number T30, Reference Number and Description

Ref. No.	Description	Piece No.
11	Mechanism frame	0700–13
12	Banner shaft bracket with clamp screws	0700–226
13	Stop disc stud	0700–59
14	Banner shaft support with bushing	0700–233
15	Bushing for banner shaft support	0700–64
16	Dowel pin	0700–81
17R	Spiral shaft for right hand operation	0700–10
17L	Spiral shaft for left hand operation	0700–511
18	Spacer bushing for spiral shaft	0700–29
19	Spiral shaft bearing block	0700–4
20	Spiral shaft ball bearing	0700–538
21	Weight	0700–6
22	Weight chain	0700–79
23	Weight bolt with slotted nut and cotter pin	0700–288
24	Weight roller	0700–68
25	Chain spacer bushing	0700–71
26	Weight bolt bushing	0700–69
27	Weight guide rod	0700–54
28	Weight bumper	0700–56
29	Hold down plate for bumper	0700–65
30	Ball bearing dust washer	0700–60
31	Sheave bumper (for left hand operation signals only)	0700–539
32	Coupling	0700–48
33	Worm stand assembly complete (Includes References 81 to 87 inclusive)	0700–542
34R	Planetary gear and bearing assembly for right hand operation signal (Includes References 91 to 105 inclusive except Ref. 97L)	0700–50R
34L	Planetary gear and bearing assembly for left hand operation signal (Includes References 91 to 105 inclusive except Ref. 59, 64, 65, and 97R)	0700–50L
35	Latch	0700–37
36	Latch bracket	0700–20
37	Latch shaft with cotter pins	0700–281
38	Hold clear coil core complete with cap screw	0700–218
39	Armature complete with adjusting nuts	0700–239
40	Lifting rod complete with cap	0700–285
41	Double throw cam operated cutout switch assembly (Includes References 111 to 126 inclusive except Ref. 113)	0700–286
42	Single throw cam operated cutout switch assembly (Includes References 111 to 127 inclusive except Ref. 119)	0700–287
43	8-post terminal block	2506–14B
44	Terminal support plate	0700–532
51	D. C. Motor with mounting base (Specify voltage)	0700–211
52	Hold clear coils for D.C. Signal (Includes pair) (Specify voltage)	0700–212
61	A. C. Motor with mounting base (Specify voltage and frequency)	0700–213
62	Hold clear coils for A.C. Signal (Includes pair) (Specify voltage and frequency)	0700–214
63	Rectifier element	0700–215
64	2-post terminal block	2506–11B
65	Mounting plate for rectifier and 2-post terminal block	0700–280
66	Transformer for rectifier unit (Specify voltage and frequency)	0700–216
67	Mounting bracket for 60 cycle transformer	0700–278
67a	Mounting bracket for 25 cycle transformer	0700–279
68	Condenser for A.C. Motor (Specify voltage and frequency of power supply)	0700–210
69	Mounting bracket for condenser	0700–209

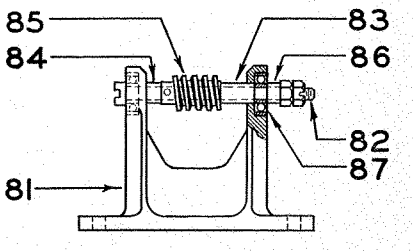
For breakdowns of References 33, 34R, 34L, 41, and 42 see following page.

Replacement Parts for Type 700 Mechanism

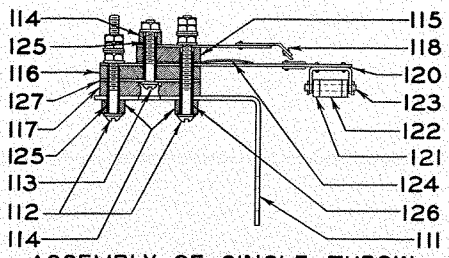
(Continued)



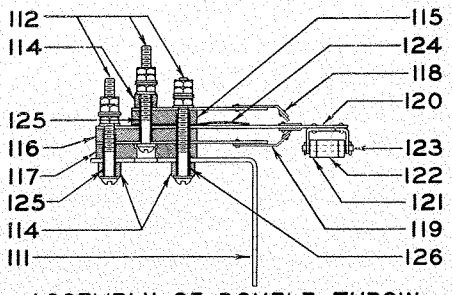
PLANETARY GEAR & BEARING
REFERENCE 34R OR 34L



WORM STAND ASSEMBLY
REFERENCE 33



ASSEMBLY OF SINGLE THROW
CUTOUT SWITCH - REFERENCE 41



ASSEMBLY OF DOUBLE THROW
CUTOUT SWITCH - REFERENCE 42

For ordering references see following page.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 700 Mechanism

(Continued)

WORM STAND ASSEMBLY, PLANETARY GEAR AND BEARING ASSEMBLY, CUTOUT SWITCH ASSEMBLIES

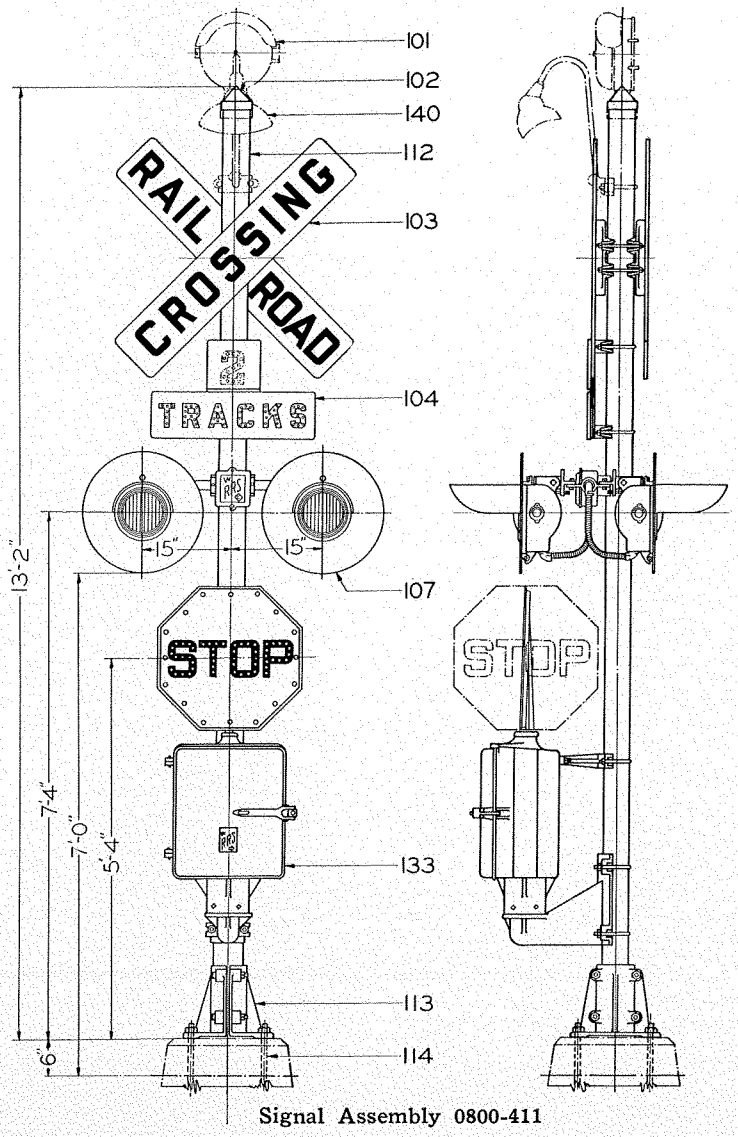
ORDERING REFERENCE

Specify Plate Number T30, Reference Number and Description

Ref. No.	Description	Piece No.
	Worm Stand Assembly (Ref. 33, Pl. T30)	
81	Worm bearing stand	0700–43
82	Worm shaft complete with pin, cotter pin and slotted nut	0700–290
83	Worm spacer (long)	0700–47
84	Worm spacer (short)	0700–47A
85	Worm complete with pin	0700–289
86	Worm shaft bushing	0700–46
87	Worm stand ball bearing	0700–543
	Planetary Gear and Bearing Assembly (Ref. 34, Pl. T30)	
91	Ratchet complete with bushing	0700–544
92	Ratchet Bushing	0700–116
93	Internal ring gear	0700–32
94	Intermediate gear	0700–31
95	Gear shaft	0700–11
96	Intermediate gear shaft with nut and lock washer	0700–72
57R	Sheave complete with bushing, for right hand operation	0700–545
97L	Sheave complete with bushing, for left hand operation	0700–546
98	Sheave bushing only	0700–9
99	Bearing block complete with bushing and oil cup	0700–232
100	Bearing bushing only	0700–33
101	Worm gear	0700–52
102	Worm gear key	
103	Leather bumper (Used on right hand operation signal only)	0700–66
104	Oil hole washer	0700–240
105	Chain fastening screw	0700–73
	Cutout Switch Assemblies (Ref. 41 and 42, Pl. T30)	
111	Mounting bracket for cam operated switch	0700–246
112	Binding post complete	
113	Machine screw with nut and washers	
114	Insulating washer	0700–256
115	Insulating block	0700–251
116	Insulating block	0700–252
117	Insulating block	0700–253
118	Upper contact	0700–248
119	Lower contact	0700–249
120	Movable contact complete with roller	0700–247
121	Roller spacer bushing	0700–263
122	Roller	0700–267
123	Roller shaft complete with cotter pins	0700–284
124	Reinforcing spring	0700–250
125	Insulating sleeve	0700–254
126	Insulating sleeve	0700–255
127	Filler plate	0700–283

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 800 MECHANISM



Signal Assembly 0800-411

NOTE:

1—Signals will be furnished with 4″ I. D. pipe unless otherwise specified.
2—Dimensions shown can be varied to meet particular requirements.
3—For ordering reference see following page.
4—Longer masts and additional flashing light units can be furnished.
5—For detail parts see Plate T100.

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 800 MECHANISM

Signal Assembly 0800-411

Flashing Lights furnished with this signal assembly will be Type 880 for Two-Way Indication (four lamp units mounted on Type 865 Lamp Arm). Any other type of lamp assembly can be furnished if specified. (See Catalog Section D.)

Bell furnished with this signal assembly will be Type 222 if source of operating power is D.C.; Type 1203 Bell will be furnished if source is A.C. (See Catalog Section B.)

Banner furnished with this signal assembly will be Bureau of Public Roads Standard. (Yellow background, black letters and border, crystal reflector lenses in border, red lenses in word STOP.) (See Catalog Section H.) Any other type of disc with various wordings can be furnished.

THE FOLLOWING INFORMATION MUST BE SPECIFIED

1—Operating voltage, if D.C.; operating voltage and frequency, if A.C.

2—Voltage and wattage of lamps in flashing lights and floodlight.

3—Numeral required in Multiple Track Sign.

ORDERING REFERENCE

Specify Plate Number T50, Reference Number and Description
Description: Model 6 Type 800 Rotating Disc Signal 0800-411

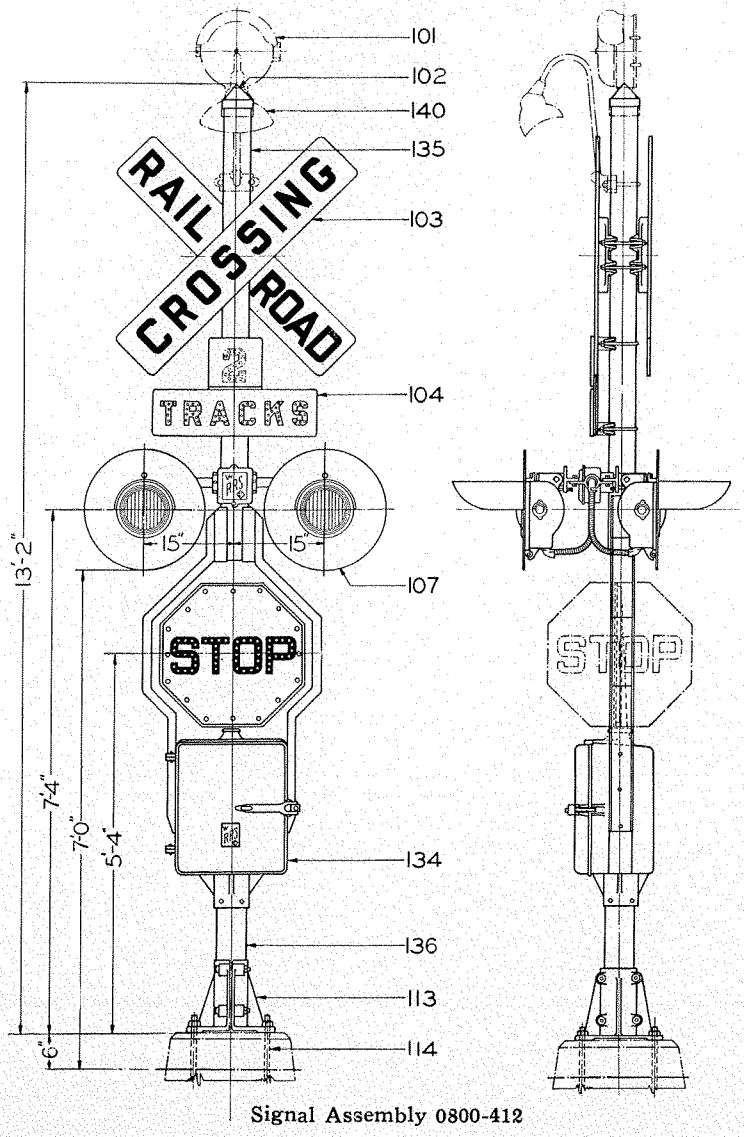
Ref. No.	With or Without Bell	With or Without Floodlight	Type of Crossing Sign	Type of Track Sign
1	With	With	Cast Iron	Reflector
2	With	With	Cast Iron	Cast Iron
3	With	Without	Reflector	Reflector
4	With	Without	Reflector	Cast Iron
5	With	Without	Cast Iron	Reflector
6	With	Without	Cast Iron	Cast Iron
7	Without	With	Cast Iron	Reflector
8	Without	With	Cast Iron	Cast Iron
9	Without	Without	Reflector	Reflector
10	Without	Without	Reflector	Cast Iron
11	Without	Without	Cast Iron	Reflector
12	Without	Without	Cast Iron	Cast Iron

For detail parts of this signal assembly see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Rotating Disc Highway Crossing Signal

WITH TYPE 800 MECHANISM



Signal Assembly 0800-412

NOTE:

1—Signals will be furnished with 5″ I. D. pipe at base and with 4″ I. D. pipe at top.

2—Dimensions shown can be varied to meet particular requirements.

3—For ordering reference see following page.

4—Longer top pipe mast and additional flashing light units can be furnished.

5—For detail parts see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 800 MECHANISM

Signal Assembly 0800-412

Flashing Lights furnished with this signal assembly will be Type 880 for Two-Way Indication (four lamp units mounted on Type 865 Lamp Arm). Any other type of lamp assembly can be furnished if specified. (See Catalog Section D.)

Bell furnished with this signal assembly will be Type 222 if source of operating power is D.C.; Type 1203 Bell will be furnished if source is A.C. (See Catalog Section B.)

Banner furnished with this signal assembly will be Bureau of Public Roads Standard. (Yellow background, black letters and border, crystal reflector lenses in border, red lenses in word STOP.) (See Catalog Section H.) Any other type of disc with various wordings can be furnished.

THE FOLLOWING INFORMATION MUST BE SPECIFIED

1—Operating voltage, if D.C.; operating voltage and frequency, if A.C.

2—Voltage and wattage of lamps in flashing lights and floodlight.

3—Numeral required in Multiple Track Sign.

ORDERING REFERENCE

Specify Plate Number T55, Reference Number and Description
Description: Model 6 Type 800 Rotating Disc Signal 0800-412

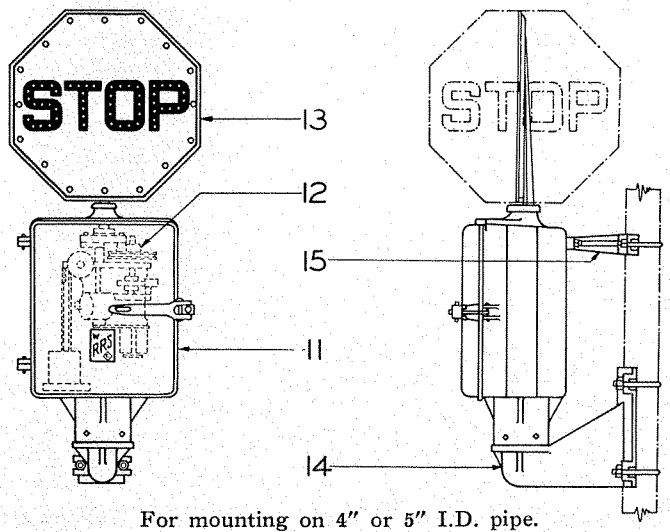
Ref. No.	With or Without Bell	With or Without Floodlight	Type of Crossing Sign	Type of Track Sign
1	With	With	Cast Iron	Reflector
2	With	With	Cast Iron	Cast Iron
3	With	Without	Reflector	Reflector
4	With	Without	Reflector	Cast Iron
5	With	Without	Cast Iron	Reflector
6	With	Without	Cast Iron	Cast Iron
7	Without	With	Cast Iron	Reflector
8	Without	With	Cast Iron	Cast Iron
9	Without	Without	Reflector	Reflector
10	Without	Without	Reflector	Cast Iron
11	Without	Without	Cast Iron	Reflector
12	Without	Without	Cast Iron	Cast Iron

For detail parts of this signal assembly see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Type 800 Assembly of Mechanism, Banner and Case

WITH GOOSENECK BRACKET FOR MOUNTING ON SIGNAL POLES



For mounting on 4″ or 5″ I.D. pipe.

ORDERING REFERENCE
Specify Plate Number T60, Reference Number and Description

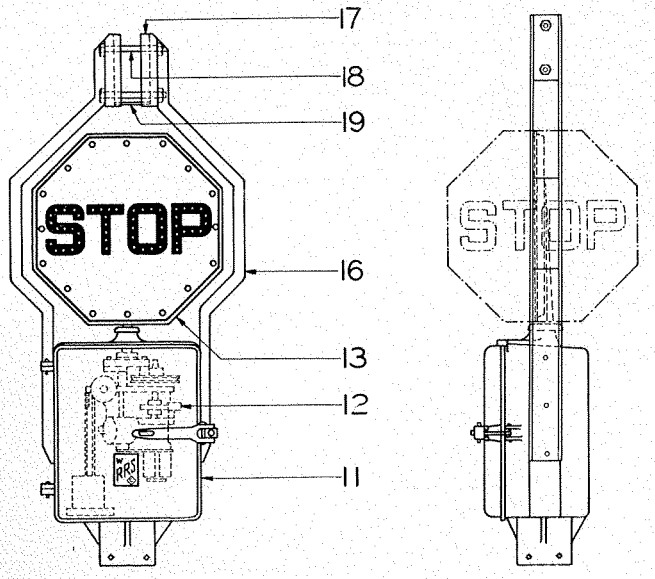
Ref. No.	Description	Piece No.
1	Type 800 Mechanism, Banner and Case Assembly complete with brackets for mounting on 4″ I.D. pipe for d.c. operation (Specify voltage)	0800–451
2	Type 800 Mechanism, Banner and Case Assembly complete with brackets for mounting on 4″ I.D. pipe for a.c. operation (Specify voltage and frequency)	0800–452
3	Type 800 Mechanism, Banner and Case Assembly complete with brackets for mounting on 5″ I.D. pipe for d.c. operation (Specify voltage)	0800–453
4	Type 800 Mechanism, Banner and Case Assembly complete with brackets for mounting on 5″ I.D. pipe for a.c. operation (Specify voltage and frequency)	0800–454
	Detail Parts	
11	Mechanism case with door (Socket is for 5″ I.D. pipe or 5½″ O.D. bracket)	0800–99
12	Mechanism complete for d.c. operation (Specify voltage)	0800–184
12a	Mechanism complete for a.c. operation (Specify voltage and frequency)	0800–183
13	Banner (Bureau of Public Roads Standard) complete with mounting fork	0700–201
13a	Double-faced assembly of banners and mounting fork (two banners mounted back to back)	0700–202
13b	Mounting fork only, for either Ref. 13 or 13a	0700–35
14	Gooseneck bracket complete with U-bolts for mounting on 4″ I.D. pipe	0700–200
14a	Gooseneck bracket complete with U-bolts for mounting on 5″ I.D. pipe	0700–200A
15	Brace bracket with U-bolt for mounting on 4″ I.D. pipe	0800–108
15a	Brace bracket with U-bolt for mounting on 5″ I.D. pipe	0800–108A

For replacement parts for mechanism see Plate T70.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Type 800 Assembly of Mechanism, Banner and Case

WITH CHANNEL IRON FRAMEWORK FOR PEDESTAL MOUNTING



Pipe mast clamps at top are for 4″ I.D. pipe.
Socket at bottom is for mounting on 5″ I.D. pipe.

ORDERING REFERENCE

Specify Plate Number T65, Reference Number and Description

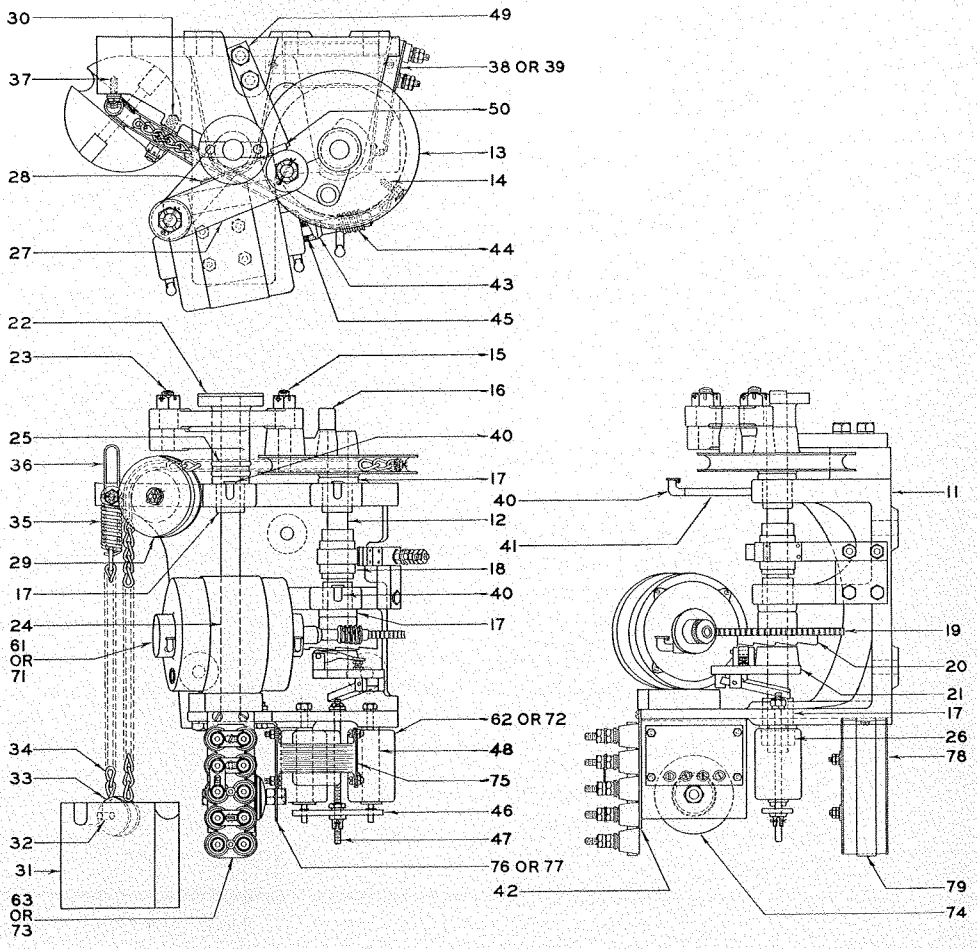
Ref. No.	Description	Piece No.
1	Type 800 Mechanism, Banner and Case Assembly complete with channel iron framework for mounting on 5″ I.D. pipe for d.c. operation (Specify voltage)	0800–461
2	Type 800 Mechanism, Banner and Case Assembly complete with channel iron framework for mounting on 5″ I.D. pipe for a.c. operation (Specify voltage and frequency)	0800–462
	Detail Parts	
11	Mechanism case with door (Socket is for 5″ I.D. pipe)	0800–101
12	Mechanism for d.c. operation (Specify voltage)	0800–184
12a	Mechanism for a.c. operation (Specify voltage and frequency)	0800–183
13	Banner (Bureau of Public Roads Standard) complete with mounting fork	0700–201
13a	Double-faced assembly of banners and mounting fork (two banners mounted back to back)	0700–202
13b	Mounting fork only, for either Ref. 13 or 13a	0700–35
16	Channel iron section for one side only (without drilling)	0800–536
17	Pipe mast clamp	0700–144
18	Through bolt with nut and washer	
19	Cover plate	0700–502

For replacement parts for mechanism see Plate T70.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 800 Mechanism

For Type 800 Mechanism complete see Plate T60 or T65



Cut shows mechanism for A. C. operation but ordering references are given for both A. C. and D. C. mechanisms.

NOTE:

1—For ordering reference for mechanism complete see Plate T60 or T65.

2—For breakdown of Items 18, 21, 38 and 39 see second following page.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 800 Mechanism

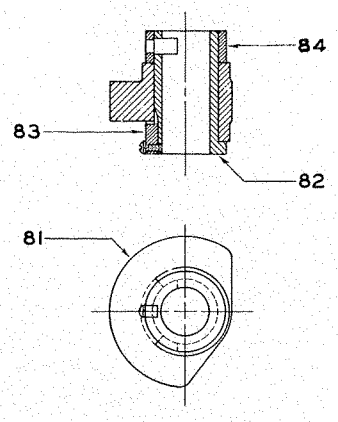
For Type 800 Mechanism Complete See Plate T60 or T65

ORDERING REFERENCE
Specify Plate Number T70, Reference Number and Description

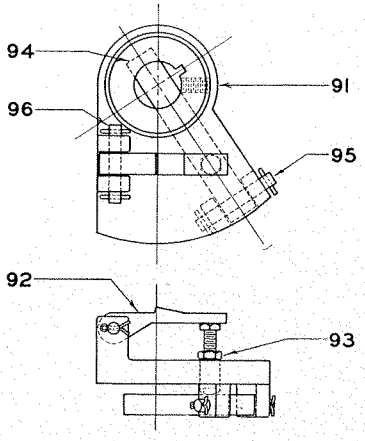
Ref. No.	Description	Piece No.
11	Mechanism frame complete with studs and bushings	0800–82
12	Drive shaft	0800–36
13	Driving pulley complete with studs and cotter pin	0800–137
14	Stud for holding chain to drive pulley, with slotted nut and cotter pin	0800–138
15	Stud for driving pulley with cotter pin	0800–136
16	Stop stud for driving pulley	0800–107
17	Bronze bearing	0800–39
18	Contact cam assembly (Includes References 81 to 84 inclusive)	0800–33
19	Worm gear	0800–35
20	Ratchet plate	0800–34
21	Ratchet mechanism assembly (Includes References 91 to 96 inclusive)	0800–77
22	Driven arm complete with stud and cotter pin	0800–139
23	Stud for driven arm with cotter pin	0800–140
24	Banner shaft	0800–37
25	Thrust bearing for banner shaft	0800–91
26	Collar for banner shaft	0800–38
27	Operating link complete with leather bumper and cotter pins	0800–141
28	Leather bumper for operating link	0800–55
29	Guide pulley complete with bearing	0800–73
30	Stud for holding guide pulley with cotter pin	0800–142
31	Weight	0800–17
32	Weight shaft	0800–42
33	Weight pulley complete with bearing	0800–74
34	Chain	0800–57
35	Spring	0800–56
36	Safety guide for spring	0800–58
37	Stud for holding spring with cotter pin	0800–143
38	Single throw cutout switch complete (Includes References 101 to 105 inclusive)	0800–134
39	Double throw cutout switch complete (Includes References 111 to 121 inclusive)	0800–135
40	Oil cup	
41	Oil tube	0800–54
42	Terminal support plate	0800–127
43	Spacer for worm drive	0800–60
44	Worm complete with pin	0700–289
45	Thrust bearing for worm drive	0800–92
46	Armature complete with adjusting nuts	0700–239
47	Stem for lifting rod complete	0800–144
48	Hold clear coil core	0800–66
49	Stop arm complete with leather bumper	0800–96
50	Leather bumper for stop arm	0800–95
61	D. C. motor with mounting base (Specify voltage) (Includes worm)	0800–87
62	Hold clear coils for D.C. mechanism (Includes pair) (Specify voltage)	0700–212
63	8-post terminal block	2506–14B
71	A. C. motor with mounting base (Specify voltage (Includes worm)	0800–86
72	Hold clear coils for A.C. mechanism (Includes pair) (Specify voltage)	0700–214
73	10-post terminal block	2506–15B
74	Rectifier element	0700–215
75	Transformer for rectifier unit (Specify voltage and frequency)	0800–132
76	Mounting bracket for 60 cycle rectifier unit	0800–128
77	Mounting bracket for 25 cycle rectifier unit	0800–129
78	Condenser for A.C. motor (Specify voltage and frequency of power supply)	0700–210
79	Condenser mounting bracket	0700–209

For breakdown of Items 18, 21, 38, and 39 see following page.

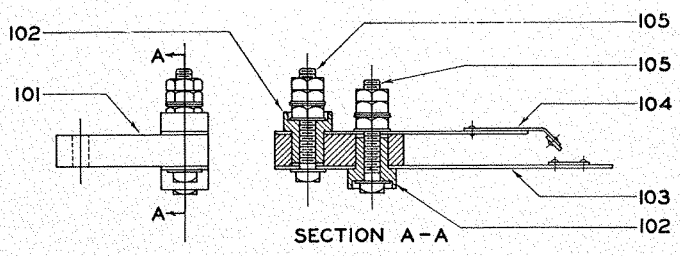
Replacement Parts for Type 800 Mechanism
(Continued)



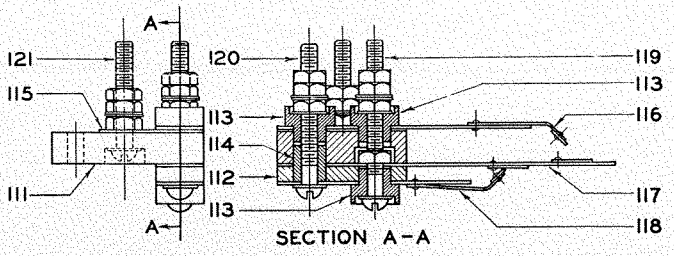
CONTACT CAM ASSEMBLY



RATCHET MECHANISM ASSEMBLY



SINGLE THROW CUTOUT SWITCH



DOUBLE THROW CUTOUT SWITCH

For ordering references see following page.

Replacement Parts for Type 800 Mechanism
(Continued)

ORDERING REFERENCE

Specify Plate Number T70, Reference Number and Description

Ref. No.	Description	Piece No.
81	Contact cam	0800–30
82	Bushing for contact cam	0800–29
83	Key for contact cam	0800–32
84	Collar for contact cam	0800–31
91	Pawl and arm carrying plate	0800–15
92	Ratchet pawl	0800–27
93	Actuating pin	0800–88
94	Intermediate lever	0800–28
95	Hinge pin complete with cotter pins for intermediate lever	0800–130
96	Hinge pin complete with cotter pins for ratchet pawl	0800–131
101	Contact support for single throw cutout switch	0800–22
102	Contact bushing	0800–23
103	Movable contact	0800–21
104	Upper contact	0800–117
105	Binding post complete	
111	Contact support for double throw cutout switch	0800–120
112	Insulating block	0800–121
113	Contact bushing	0800–124
114	Insulating sleeve	0800–123
115	Contact plate	0800–122
116	Upper contact	0800–118
117	Movable contact	0800–126
118	Lower contact	0800–119
119	Binding post complete	
120	Binding post complete	
121	Binding post complete	

Detail Parts of Signal Assemblies

See Plates T10, T15, T50 and T55

Reference numbers listed below correspond to numbers shown on detail parts on crossing signal assemblies shown in this catalog section. For detailed information on assembly parts see other sections of this catalog, as follows:

Highway Crossing Bells; Section B.

Pinnacles and Bases; Section E.

Signs; Section H.

Lamp Arms and Crossing Signal Lamp Units; Section D.

All parts will be furnished for mounting on 4″ I.D. pipe unless otherwise specified.

ORDERING REFERENCE

Specify Plate Number T100, Reference Number and Description

Ref. No.	Description	Piece No.
101	Type 222 Highway Crossing Bell (Specify d.c. operating voltage)	222C
101a	Type 1203 Highway Crossing Bell (Specify a.c. operating voltage and frequency)	1203C
102	Pinnacle	110–6
103	A. A. R. Standard Cast Iron Crossing Sign	3320–14
103a	A. A. R. Standard Reflector Lens Crossing Sign	3380–2
104	A. A. R. Standard Cast Iron Multiple Track Sign (Specify numeral)	16442–14
104a	A. A. R. Standard Reflector Lens Multiple Track Sign (Specify numeral)	3368–2
107	Type 865 Lamp Arm with Four Type 818 Lamp Units for Two Way Indication (Specify voltage and wattage of lamps)	880–4
112	Pipe pole, 4″ I.D. by 12′ 10″ (Specify drilling)	
113	Type 2143 Split base for 4″ I.D. pipe (12″ c.c. bolt spacing)	2143
113a	Type 2145 Split base for 5″ I.D. pipe (12″ c.c. bolt spacing)	2145
114	Anchor bolt complete with nut and washer	
131	Type 700 Mechanism, Banner and Case Assembly (See Plate T20)	
132	Type 700 Mechanism, Banner and Case Assembly (See Plate T25)	
133	Type 800 Mechanism, Banner and Case Assembly (See Plate T60)	
134	Type 800 Mechanism, Banner and Case Assembly (See Plate T65)	
135	Pipe post, 4″ I.D. by 6′ 3¼″ (Specify drilling)	
136	Pipe post, 5″ I.D. (Specify for Type 700 or 800 Mechanism)	
140	Flood Light Assembly	2860

Note: Assembly drawings of special signal assemblies to meet particular requirements will be prepared and furnished on request.

Information Desired With Inquiry for Complete Highway Crossing Installation

We are pleased to furnish engineering information and to quote on requirements for Highway Crossing Installations. Where possible, inquiries should be accompanied with a sketch or, preferably, a scale track plan showing the location of the highway.

The following information is especially desired:

1—Specify type of crossing signal.
(A) Autoflag, (B) Flashing Light, (C) Rotating Disc, (D) Gates, (E) Is illuminated STOP sign wanted? (F) Is bell required? If so, one for crossing or one for each signal?

2—Specify length of approach section each side of crossing. (A. A. R. recommendation is 20 seconds warning for fastest train.)

3—If for double track road, specify if protection shall be provided for reverse traffic.

4—What special operating conditions exist within the area?

5—Specify whether there are any switches within the approach section.

6—Specify if there is any signal equipment now in place which might be affected by this installation.

7—Specify whether steam or electric propulsion railway.

8—What electric power is available for operation of signals? If D. C., specify voltage; if A. C., specify voltage and frequency.

9—Specify whether stand-by service is required. (Can continuity of service be depended upon?)

10—Specify weight and type of rail and whether four or six hole insulated rail joints.

11—Specify if track ballast is rock, gravel, sand, cinders, or other material.

12—Specify whether location of signals is to be at side or center of street. If for center of street, state whether or not pilot or marker lights are desired.

13—State whether highway is paved. Specify class of paving.

14—If for electric propulsion railway, specify what propulsion voltage is used, and whether A. C. or D. C. If A. C., specify frequency.

15—If for electric propulsion railway, state the normal and maximum return current in rails.

16—If for electric propulsion railway, specify if track circuit, trolley contact, magnetic inductor, or rail contact is desired.

Speed Table for Crossing Signal Starts

Seconds		10	15	20	25	30	35	40	45	50	55	60
Miles Per Hour	Feet Per Second	Distance Traveled in Feet										
1	1.46	14.6	22.0	29.3	36.6	44.0	51.3	58.6	66.0	73.3	80.6	88.0
2	2.93	29.3	44.0	58.6	73.3	88.0	102.6	117.3	132.0	146.6	161.3	176.0
3	4.4	44	66	88	110	132	154	176	198	220	242	264
4	5.86	58.6	88	117.3	146.6	176	205.3	334.6	264	293.3	322.6	352
5	7.3	73	110	147	183	220	257	293	330	367	403	440
10	14.6	146	220	293	366	440	513	587	660	733	807	880
15	22.0	220	330	440	550	660	770	880	990	1,100	1,210	1,320
20	29.3	293	440	587	733	880	1,027	1,173	1,320	1,467	1,613	1,760
25	36.7	367	550	733	917	1,100	1,283	1,467	1,650	1,833	2,017	2,200
30	44.0	440	660	880	1,100	1,320	1,540	1,760	1,980	2,200	2,420	2,640
35	51.3	513	770	1,027	1,283	1,540	1,797	2,053	2,310	2,567	2,823	3,080
40	58.7	587	880	1,173	1,467	1,760	2,053	2,347	2,640	2,933	3,227	3,520
45	66.0	660	990	1,320	1,650	1,980	2,310	2,640	2,970	3,300	3,630	3,960
50	73.3	733	1,100	1,467	1,833	2,200	2,567	2,933	3,300	3,667	4,033	4,400
55	80.7	807	1,210	1,613	2,017	2,420	2,833	3,227	3,630	4,033	4,437	4,840
60	88.0	880	1,320	1,760	2,200	2,640	3,080	3,520	3,960	4,400	4,840	5,280
65	95.3	953	1,430	1,907	2,383	2,860	3,337	3,813	4,290	4,767	5,243	5,720
70	102.7	1,027	1,540	2,053	2,567	3,080	3,593	4,107	4,620	5,133	5,647	6,160
75	110.0	1,100	1,650	2,200	2,750	3,300	3,850	4,400	4,590	5,500	6,056	6,600
80	117.3	1,173	1,760	2,347	2,933	3,520	4,107	4,693	5,280	5,867	6,453	7,040
85	124.7	1,247	1,870	2,493	3,117	3,740	4,363	4,987	5,610	6,233	6,875	7,480
90	132.0	1,320	1,980	2,640	3,300	3,960	4,620	5,280	5,940	6,600	7,260	7,920
95	139.3	1,393	2,090	2,787	3,483	4,180	4,877	5,573	6,270	6,967	7,663	8,360
100	146.7	1,467	2,200	2,933	3,667	4,400	5,133	5,867	6,600	7,333	8,067	8,800
105	154.0	1,540	2,310	3,080	3,850	4,620	5,390	6,160	6,930	7,700	8,470	9,240
110	161.3	1,613	2,420	3,227	4,033	4,840	5,647	6,453	7,260	8,067	8,873	9,680
115	168.6	1,686	2,530	3,373	4,217	5,060	5,903	6,747	7,590	8,434	9,277	10,120
120	176.0	1,760	2,640	3,520	4,400	5,280	6,160	7,040	7,920	8,800	9,680	10,560
125	183.3	1,833	2,750	3,667	4,583	5,500	6,417	7,334	8,250	9,167	10,084	11,000
130	190.7	1,907	2,860	3,813	4,767	5,720	6,673	7,627	8,580	9,534	10,487	11,440

NOTE: Where length of track circuit is known time in seconds can be determined by dividing its length in feet by "Feet Per Second" at train speed selected.

WESTERN RAILROAD SUPPLY COMPANY

Memoranda

5M-37

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